REMARKS

Introduction

In response to the Office Action dated January 8, 2008, Applicants have amended claims 1 and 5. Claims 1, 2, 4, 5, and 9 remain active. Support for amended claim 1 is found in, for example, Fig. 4 and pg. 6, line 19-pg. 7, line 3. Claim 5 has been amended to depend from claim 1. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

Claim Rejection Under 35 U.S.C. § 103

Claims 1, 2, 4, 5, and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over De Poorter (U.S. Patent No. 5,578,863) in view of U.S. Pre-Grant Publication No. 2002/0039374 (hereinafter Onomura). Amended claim 1 recites, in part, "...a rated output power of the semiconductor laser device is 30 mW or more, and an atmospheric gas inside the package is a mixture of oxygen and nitrogen, with an oxygen content of **more than 20%**."

The Office Action asserts that De Poorter discloses a semiconductor laser device 10 comprising a semiconductor laser element 3 inside an airtight sealed package 20. The Office Action asserts that the atmospheric gas inside the package contains oxygen and the atmospheric gas is a mixture of oxygen and nitrogen with an oxygen content of 20% or more. The Office Action acknowledges that De Poorter does not disclose an active region formed of a gallium nitride based crystal. The Office Action relies on Onomura in an attempt to cure the deficiencies of De Poorter. The Office Action asserts that Onomura discloses an InGaN quantum well laser corresponding to the active region and the output of the semiconductor laser device is 30mW or more.

Turning to the prior art, the output of the semiconductor device of De Poorter is 20 mW. De Poorter describes that the oxygen concentration is 20%. De Poorter is *silent* about an oxygen concentration in the atmospheric gas of **more than 20%**, as required by amended claim 1.

As disclosed in the present specification, when the output is 20 mW or less, even without oxygen inside the package, a high mean time to failure (MTTF) is obtained, as illustrated in Fig. 4. Therefore it is inappropriate to combine the semiconductor laser device having a rated output power of 20 mW of De Poorter with Onomura.

Onomura discusses a semiconductor laser device having a rated output power of 50 mW. Onomura is *silent* regarding the oxygen concentration of the gas inside the package. Onomura does not suggest an oxygen concentration of more than 20%, as required by amended claim 1. Therefore, Onomura does not cure the deficiencies of De Poorter.

According to an embodiment of the present application, a semiconductor laser device yields a rated output power of 30 mW or more when the oxygen concentration is more than 20% in the atmospheric gas inside the package. Thereby, as taught in the instant specification, an oxygen concentration that is more than 20% results in an enhanced MTTF when the rated output is 30mW or more (*see, e.g.,* pg. 6, lines 4-20 and pg. 7, lines 2-3). However, the cited references do not suggest this, and apparently are unaware of the unexpected improvement in increasing the MTTF to 3,000 hours or more provided by the claimed device with a rated power output of 30 mW or more.

In the instant case, the cited prior art is *silent* regarding the combination of the rated output power and the atmospheric gas inside the package is dry air; so that there is no basis for alleging obviousness thereof.

The Examiner has not pointed out any teaching or motivation in De Poorter or Onomura to suggest that the semiconductor laser device has a rated output power of 30 mW or more **and** the atmospheric gas inside the package has an oxygen content of more than 20%, as required by amended claim 1.

The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and realistically impel one having ordinary skill in the art to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Accordingly, the Examiner is charged with the initial burden of identifying a source in the applied prior art for the requisite realistic motivation. *Smiths Industries Medical System v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999); *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1449 (Fed. Cir. 1997). The Examiner did not identify any motivation in De Poorter or Onomura to modify the semiconductor laser device so that it comprises an airtight-sealed package comprising an atmospheric gas having an oxygen content of more than 20% and a rated output power of 30 mW or more, as required by amended claim 1.

Neither De Poorter nor Onomura, individually or combined, disclose or suggest, at a minimum, "...a rated output power of the semiconductor laser device is 30 mW or more, and an atmospheric gas inside the package is a mixture of oxygen and nitrogen, with an oxygen content of **more than 20%,**" as recited in amended claim 1.

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend and further distinguish the claimed semiconductor laser device.

Conclusion

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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